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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,564	07/30/2002	Vincent Costes	3401-4035	6868

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1775 Eye Street N W Suite 400
Washington, DC 20006

EXAMINER

CHANG, AUDREY Y

ART UNIT PAPER NUMBER

2872

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/070,564

Applicant(s)

COSTES, VINCENT

Examiner

Audrey Y. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06/11/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remark

- This Office Action is in response to applicant's preliminary amendment filed on March 7, 2002, which has been entered.
- By this amendment, the applicant has amended claims 1-7.
- Claims 1-7 remain pending in this application.

Claim Objections

1. **Claims 1-7 are objected to because of the following informalities:**

(1). The phrase "the light beams that are received by the primary mirror along two directions of incidence that are also distinct from its optical axis" recited in claim 1 is confusing and indefinite. As demonstrated from the drawings the incident light first incident on the primary mirror is in a direction that is parallel to the optical axis of the primary mirror. The incident light is collimated that *does not* have two incident directions.

(2). The phrase "said two directions of incidence" recited in claim 1 is confusing and indefinite since it is not clear if this is referred to the incidence on the primary mirror or on the secondary mirror.

(3). The phrase "along the two directions" recited in the various dependent claims is confusing and indefinite since there are more than two sets of "two directions" being claimed in their respective based claim.

(4). The phrase "at the level of the primary mirror" recited in claim 6 is confusing and indefinite since it is not clear what is considered to be the level of a mirror.

(5). The phrase "the two observation directions of incidence" recited in claim 6 is confusing and indefinite since it lacks proper antecedent basis from its based claim.

(7). Claim 7 is incomplete since it is not clear what are the structural and logical relationships between the stereoscopic image acquisition means and the satellite.

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Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-2, 4-6 and 7 dependent from all of them are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Frosch et al (PN. 4,101,195).**

Frosch et al teaches a *telescope*, which is an *optical observation device*, that is comprised of a *primary mirror* (10, Figure 2), that receives incident light beam (36) parallel to its optical axis, a *secondary mirror* (16) located at the optical axis and the focal point of the primary mirror for receiving the incident light reflected from the primary mirror along two directions and reflecting them to a *tertiary mirror means* (42 and 20) along two directions that are symmetrically off set and distinct from the optical axis of the primary mirror. The tertiary mirror means reflects the two light beams to form images on the image plane (32), where a *camera* (34) serves as the *image acquisition means* is located, (please see Figure 2, columns 2-3).

This reference has met all the limitations of the claims with the exception that it does not teach explicitly that the image acquisition means is to acquire stereoscopic images. However as clearly demonstrated in Figure 2, there are two image light beams following different light paths and two images are generated and formed at the image plane from the observation device, which suggests that the two images formed could be stereoscopically related to provide stereoscopic images. Stereoscopically related images are two images of an object that are slightly different in *perspective* according to right eye and left eye of a viewer. The two different optical paths followed by the two image lights could provide the

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difference in perspective. Furthermore, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Madham*, 2 USPQ2d 1647 (1987).

Frosch et al teaches that the primary mirror is an ellipsoid but it does not teach explicitly that the mirror is a parabolic. However it is well known in the art for the Cassegrain design (i.e. with the primary and second mirror arrangement taught by Frosch et al), to use parabolic mirror as alternative mirror means for the primary mirror, since the idea is to use a mirror with definite focal points to place the secondary mirror at the focal points, therefore collects collimated light to focus on the secondary mirror. Such modification would therefore have been obvious matters of design choice to one skilled in the art for the benefit of using a different mirror design to achieve the same function, namely forming images on the image plane.

With regard to claim 2, the reflection of the light beams by the secondary mirror is symmetrically with respect to the optical axis of the primary mirror, (please see Figure 2).

With regard to claim 4, Frosch et al teaches that the tertiary mirror means comprises a common mirror (20) and two plane mirrors (40) for directing the two light beams to the image plane. Frosch et al teaches that the common mirror (20) is a curved mirror and the two mirrors (40) are plane mirrors. Although this reference does not teach that the common mirror is plane mirror and the two mirrors (40) are curved, such modifications are considered to be obvious matters of design choices to one skilled in the art for both arrangements achieve the same function namely receives the two image light beams from secondary mirror along two directions to form images at the image plane or the camera.

With regard to claim 5, the primary mirror includes a central opening (11, Figure 2) to allow the reflected light from the secondary mirror to pass through.

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With regard to claim 6, as demonstrated by Figure 2, the secondary mirror forms two intermediate images at the central opening of the primary mirror.

With regard to claim 7, Frosch et al teaches the optical observation could be a telescope but it does not teach explicitly that it is a stereoscopic observation system comprising a satellite. However since the claim also fails to provide the logical and structural relationship among the elements claimed such feature is therefore broadly examined as one can certainly utilized the telescope with a satellite.

4. Claims 3 and 7 dependent therefrom are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Frosch et al as applied to claim 1 above, and further in view of the German Patent Publication (DE 43 07 831 A1).

The optical observation device taught by Frosch et al as described for claim 1 above has met all the limitations of the claims. This reference teaches to use a tertiary mirror means to reflect the light beams to a camera. However it does not teach explicitly that the tertiary mirror means includes two plane mirrors and two curved mirrors with arrangement set forth in the claims. German patent publication (831') discloses a Cassegrain mirror arrangement wherein the tertiary mirror means includes two sets of plane mirrors as shown in the Figure A on page 7, to receive the two image light beams from the secondary mirror along two directions to focus them on the image plane respectively. It would then have been obvious to one skilled in the art to apply the teachings of patent publication ('831) to modify the tertiary mirror means of Frosch et al to use two sets of mirrors as alternative means to achieve the image acquisition for the benefit of providing different design for the observation device.

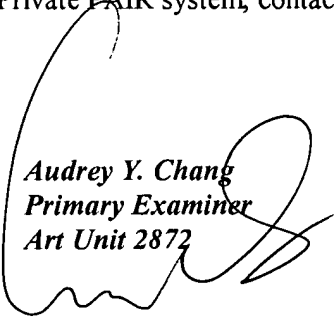
With regard to claim 7, Frosch et al teaches the optical observation could be a telescope but it does not teach explicitly that it is a stereoscopic observation system comprising a satellite. However since the claim also fails to provide the logical and structural relationship among the elements claimed such feature is therefore broadly examined as one can certainly utilized the telescope with a satellite.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Audrey Y. Chang
Primary Examiner
Art Unit 2872

A. Chang, Ph.D.